REVISION OF CHINESE APHINAE*

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Characteristics of the Subfamily Aphinae

The head of an apterous or alate aphid bears a pair of antennae consisting of five or six segments. The antennae may arise directly from the head or from a pair of more or less distinct antennal or frontal tubercles. The space between the antennal tubercles is termed the frons or frontal sinus.

The apterous or alate aphid has a pair of large compound eyes. The triommatidium is present on most compound eyes as a conspicuous ocular tubercle at the proximal end of the outer edge of the eye but rarely it is fused with underside of the eye and is not visible from above. Alate also bears three ocelli in addition to the compound eyes, the medium ocellus is directed forward and the outer two are placed near the inner margin of the eyes.

The antennae consist of two basal segments and three to four usually more slender segments correctly termed the flagellum, although in aphid flagellum has often been used for the narrow apical part of the last antennal segment. The last two antennal segments each bears a primary or constant rhinarium or sensorium which is usually round. The primary sensorium of the penultimate segment is placed near the apex of the segment and that of the last segment divides the segment into two parts, a thick base measured to the distal apex of the sensorium and processus terminalis or unguis or flagellum. The flagellum is long and slender. Near the primary sensorium of the last segment is a group of small accessory sensoria. Antennal segments III to V may bear secondary sensoria. Most alate bear secondary sensoria on III at least and often or IV and V. In aptera secondary sensoria may be absent or only few may be present near the base of III.

The ultimate rostral segment bears a group of six primary hairs at the apex of IV and a variable number of secondary hairs proximally to there.

The fore wings usually have four oblique veins, the most proximal being Cu 2 (or 1 A), the next Cu 1, the next the media and lastly the radial sector arising from the stigma. The media may be twice branched or once branched. The radial sector is usually free. The hind wings usually have two oblique veins, the

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proximal vein being cubitus and the distal being the media, but one of these veins may be missing.

Tarsi are normally two segmented. The first segment is small and usually triangular when seen from the side. The second segment bears at its apex a pair of claws, which have at their base a pair of empodial hairs which are usually hair-like. On the underside of the meso-thorax is the m d-thoracic furca.

The abdomen consists of eight segments terminated by the cauda and subanal plate and sternite respectively. The abdomen often bears a pair of siphunculi or cornicles arising from the 5th or 6th tergites. The cornicles are usually more or less elongate, either cylindrical or tapering or variously clavate. Spinal tubercles sometimes occur on the 7th or 8th tergite or on both. At the apex of the abdomen is the cauda which may be elongate, triangular, pentagonal, tongue-shaped, semilunate or rounded. Two pairs of spiracles or stigmata are present on the thorax and 7 pairs of abdominal spiracles which sometimes are placed on the sclerotic stigmal or spiracular plates.

The integument of the head and thorax of alate is usually strongly sclerotized, while that of the aptera is usually membranous. Sclerites may be present in all forms on the abdomen and they are divided into spinal, pleural, marginal, antesiphuncular, postsiphoncular sclerites; sometimes a large central sclerite is present along the dorsum. The living skin is formed by the hypodermic cells, which are sometimes interspersed with wax glands. Intersegmental sclerites sometimes erroneously considered as wax plates because of their polygonal pattern, serve to hold the muscles and are called muscle plate.

The hairs of body and appendages differ in form and may be pointed, enlarged; sometimes they are placed on scleroites (small sclerites).

Key to Genera and Species of the Subfamily Aphinae

1. Body and appendages with prominent hairs. Antennal tubercles undeveloped. Cornicles elongate, more or less swollen. Cauda and anal plate rounded. .... *Melanoxantherium* Schouteden, 1901

   Only one species known form China, i. e. *M. salijaponica* (Shinji, 1924). Synonymy: *M. yezoensis* Hori, 1929. Host: *Salix* sp. Distribution: Sikong, Liaonnig; Japan.

   Body and appendages without prominent hairs. Antennal tubercles more or less developed. Cornicles variable in length, cylindrical, elongate. Anal plate rounded. 2

2. Cornicles shorter than wide, nearly pore like. Cauda semilunate. .... *Cryptosiphum* Buckton, 1879

   Only one species known from China, i. e. *C. gallarum* (Kaltenbach, 1856). Synonymy: *C. artemisiae* Buckton, 1877; *Pseudolachnus yomogi* Shinji, 1922; *C.*

pseudogallarum Shinji, 1941. Hosts: *Artemisia* spp. Distribution: Taiwan, Fuckien, Szechuan, Sikong, Shantung, Liaoning; Corea, Japan, Ryukyu, Europe.

Cornicles at least as long as wide. Cauda developed. 3

3. Supracaudal process present most prominent in aptera. ..... *Cavariella* del Guercio, 1911

There are 4 species known from China. They may be distinguished as follow:

a. Antennae 5 segmented. Supracaudal process longer than wide, as long as the cauda in aptera. ..... *araliae* Takahashi, 1921

Synonymy: *C. neocapreae* Takahashi, 1921. Hosts: *Aralia* spp. and *Salix* sp.. Distribution: Taiwan, Fuckien, Szechuan; Corea, Japan, Ryukyu.

Antennae 5 or 6 segmented. supracaudal process shorter than cauda. ..... b

b. Body yellowish brown to blackish brown in the aptera. ..... *japonica* (Essig et Kuwana, 1918)

Synonymy: *Cavariella japonica* var. *nigra* Takahashi, 1937. Host: *Salix* sp.. Distribution: Taiwan, Szechuan; Japan.

Body yellowish white. c

c. Cornicles strongly swollen. ..... *capreae* (Fabricius, 1775)

Synonymy: *C. bicaudata* Essig et Kuwana, 1918. Hosts: *Rosa* sp., *Salix* sp. and *Apium* sp.. Distribution: Taiwan, Chekiang, Szechuan, Sikong, Kiangsu, Shantung, Hopei; Corea, Japan.

Cornicles slightly swollen ..... *salicicola* (Matsumura, 1917)

Synonymy: *Siphocoryne bicaudata* Essig et Kuwana, 1918. Hosts: *Rosa* sp., *Salix* spp., *Apium petroselinum*. Distribution: Taiwan, Szechuan, Sikong, Kiangau, Shantung, Hopei; Corea. Japan,

8th Abdominal dorsum without supracaudal process. 4

4. Cornicles cylindrical. Cauda conical, tongue shaped, pentagonal; at most as long as wide. 5

Cornicles cylindrical or swollen. Cauda elongate, much longer than wide. ... 6

5. Abdominal spiracles large, round. Cauda tongue-shaped. ..... *Brachycaudus* van der Goot, 1913

There are 2 species known from China. They may be separated as follow:

a. Ultimate rostral segment distinctly narrow and much longer than the penultimate segment. Sensoria elevated. ..... *farfarae* (Koch, 1854)

Synonymy: *Aphis kochi* Schouteden, 1906; *Anuraphis pyriella* Theobald, 1929. Host: *Pyrus* sp.. Distribution: Liaoning; Japan; Europe.

Ultimate rostral segment more or less narrower and longer but not so distinctly. Sensoria not elevated. ..... *helichrysi* (Kaltenbach, 1843)

Hosts: many species of Compositae and *Pyrus* sp.. Distribution: Taiwan, Fuckien, Sikong, Hopei, Liaoning; cosmopolite.

Abdominal spiracles small, elongate. Cauda conical or tongue-shaped. ..... *Sappaphis* Matsumura, 1918

There are 5 species known from China. They may be separated as follow:

a. Cornicles distinctly longer or subequal length of 4th or 5th antennal segment. ..... *lanigera* (Takahashi, 1927)

Host: *Stauntonia hebandra*. Distribution: Taiwan.

Cornicles distinctly shorter than length of 4th or 5th antennal segment.···b

b. 3rd Antennal segment of aptera with sensoria. Cauda triangular. ····· ····· *formosana* (Takahashi, 1927)

Host: species of Compositae. Distribution: Taiwan.

3rd Antennal segment of aptera without sensoria. Cauda tongue-shaped.···c

c. Hairs on antennae numerous, delicate.····· *pyri* Matsumura, 1915

Synonymy: *Anuraphis piricola* Okamoto et Takahashi, 1927; *Anuraphis nashi* Shinji, 1944. Host: *Pyrus* sp.. Distribution: Kiangsu, Shantung, Liaoning; Corea and Japan.

Hairs on antennae rare, stiff.····· d

d. Cornicles nearly smooth. Cauda elongate, constricted below middle. ····· ·····*pyrivora* n. sp.

Sappaphis pyrivora n. sp. (fig. 1)

Fundatrix: When alive body covered with white waxy short fibre. Head, antennal segments I, II, IV and V, rostrum, legs except tibiae which are pale, thoracic sclerites, spiracular sclerites, wax plates, cornicles, genital plate, cauda and anal plate blackish brown; rest pale. Frons nearly rounded. Antennae 5 segmented, flagella little longer than bases. The relative length of antennal segments as follow: I-9, II-10, III-39, IV-20, V-15+9. Rostrum extending to base of middle coxae, ultimate segment longer than penultimate segment. Marginal tubercles slender, thinner than ocular tubercles, abdominal spiracles small. Cornicles cylindrical, about twice as long as wide, faintly striated. Cauda longer than wide, little narrowed near distal two third. Anal plate broadly rounded. Body length 2.6100, width 1.5900, antenna length 1.2544, hind tibia length 0.9300, cornicle length 0.1904, width at base 0.1008, at apex 0.0784, cauda length 0.2128, width at base 0.1232, anal plate length 0.0672, width 0.1904 mm.

Aptera: Colour similar to fundatrix. Antennae 6 segmented, flagella much longer than bases. The relative length of antennal segments as follow: I-10, II-10, III-36, IV-20, V-22, VI-15+23. Rest similar to fundatrix. Body length 2.4000, width 1.1700, antenna length 1.5232, hind tibia length 1.0500, cornicle length 0.2016, width 0.1120, cauda length 0.1568, width at base 0.2912, anal plate length 0.1120, width at base 0.2128 mm.

Alate: Head, antennae, rostrum, legs, wing veins, dorsal transversal sclerites of abdominal segments IV, V, VI, VII and VIII, spiracular sclerites, cornicles, cauda and anal plate blackish brown; rest pale. Frons nearly straight. Antennal segment III with about 40 elevated circular sensoria scattered over the whole length, IV and V sometimes with similar one or two sensoria, flagella much longer than bases. The relative length of antennal segments as follow: I-8, II-9, III-40, IV-20, V-21, V-13+18. Rostrum extending beyond fore coxae,

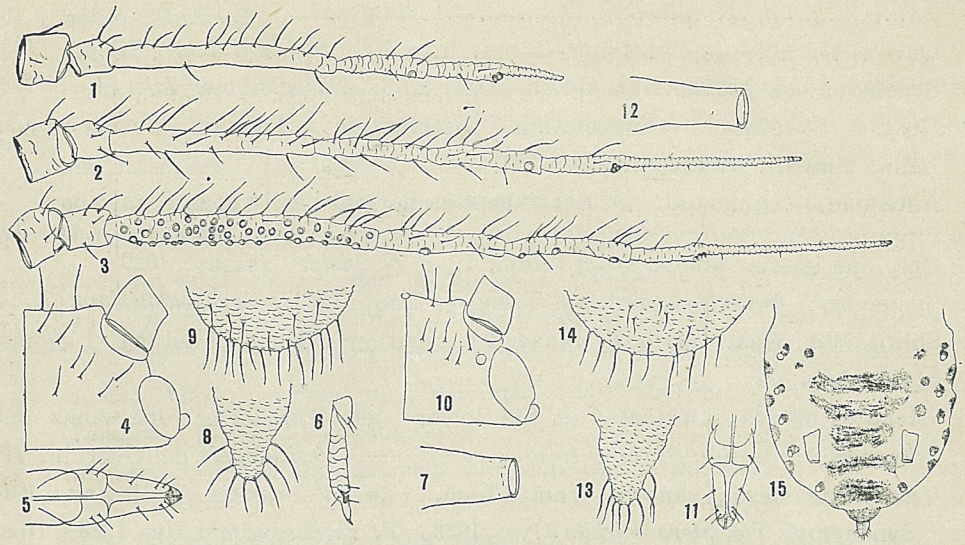

Fig. 1. *Sappaphis pyrivora* n. sp.

1. antenna of stem mother, 2. antenna of apterous viviparous female, 3. antenna of alate viviparous female, 4. head, 5. rostrum, 6. hind tarsus including claw, 7. cornilce, 8, cauda, 9. anal plate of apterous viviparous female, 10. head, 11. rostrum, 12. cornicle, 13. cauda, 14. anal plate, 15. abdomen of alate viviparous female.

ultimate segment somewhat longer than penultimate segment. Wing stigma elongate, veins not infuscated. Abdominal spiracles small, dorsal transversal sclerites of abdominal segments IV, V, VI large, nearly fused together like a central sclerite. Others similar to aptera. Body length 1.8500, width 0.6900, antenna length 1.5232, fore wing length 2.6700, width 1.0800, hind tibia length 1.1100, cornicle length 0.1792, width 0.0672, cauda length 0.0806, width at base 0.1232 mm.

Host: Rosaceae: *Pyrus* sp.,

Locality: Some specimens were collected by the writer on March 29, 1937 at Chengtu and on April 6, 1937 at Chienyang, Szechuan.

Cornicles imbricated. Cauda tongue-shaped ····· *pruni* (Shinji, 1922)
Host: *Prunus* sp.. Distribution: Szechuan; Japan. This species is new to the fauna of China.

6. Cornicles swollen. ····· 7
Cornicles not swollen, cylindrical. ····· 14
7. Cornicles long, longer than cauda. ····· 8
Cornicles short, as long as or shorter than cauda. ····· 11
8. Body with fan like hairs in aptera. ····· 9
Body hairs normal. ····· 10
9. Antennae 6 segmented. Ocular tubercles hardly seen from above. ·····

..... *Coloradoa* Wilson, 1910

Only one species known from China, i. e. *C. rufomaculata* (Wilson, 1908) Synonymy: *Stephensonia lahorensis* Das, 1918; *Rhopalosipum kiku* Hori, 1927. Hosts: Species of Compositae. Distribution: Taiwan; Corea, Japan, India, Hawaii; cosmopolite.

Antennae 5 segmented. Ocular tubercles normal easily seen from above. ... . *Neaphis* Nevsky, 1929

Only one species known from China, i. e. *N. viridis* Nevsky, 1929 Synonymy: *Micraphis takahashii* Tseng et Tao, 1936; *Eurhopalosiphum kondoi* Shinji, 1942. Host: *Artemisia annua*. Distribution: Sikong, Shantung, Liaoning; Midde Asia.

10. Head of aptera imbricated on the lower side. Media of fore wings once branched. ..... *Vesiculaphis* del Guercio, 1911

Only one species known from China, i. e. *V. caricis* (Fullaway, 1910) Synonymy: *Toxoptera shichito* Uye, 1923, *T. rhododendroni* Uye 1923. Host: *Cyperus rotundus*. Distribution: Taiwan; Japan, Hawaii.

Head of aptera normal. Media of fore wings twice branched. .... *Rhopalosiphum* Koch, 1854

There are 4 species known from China. They may be separated as follow:

a. Body elongate. Antennae shorter than half length of body. Legs entirely black. ..... *maidis* (Fitch, 1855)

Hosts: Many species of Graminae. Distribution: Hainan, Kwangtung, Taiwan, Fuckien, Chekiang, Szechuan, Kiangsu, Shantung, Liaoning; cosmopolite.

Body not elongate. Antennae longer than half length of body. Legs not entirely black. ..... b

b. Antennae 5 segmented, antennal hairs longer than the diameter of the segments beared. ..... *rufiabdominalis* (Sasaki, 1899)

Synonymy: *Siphocoryne splendens* Theobald, 1915; *Yamataphis oryzae*, Matsumura 1917; *Aresna shelkovniskovi* Mordvilko, 1921; *Rhopalosiphum avenae* George 1925; *R. subterraneum* Mason, 1937; *Aresna setigera* Blanchard, 1939; *Pseudocerosipha pruni* Shinji, 1941, *Cerosipha california* Essig, 1944; *C. subterranea* Zimmerman, 1948. Hosts: Root of Graminae. Distribution: Taiwan; cosmopolite.

Antennae 6 segmented, antennal hairs short. c

c. Cornicles nearly subequal length of 3rd antennal segment and nearly smooth. ..... *nymphaeae* (Linnaeus, 1767)

Hosts: Many species of Alismataceae, Araceae, Caryophyllineae, Gentinaceae, Musaceae, Nymphaeaceae, Rosaceae, Saliaceae, Salviniaceae, Scrophulariaceae. Distribution: Kwangtung, Taiwan, Fuckien, Chekiang, Szechuan, Kiangsu, Shantung, Hopei; cosmopolite.

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Cornicles much shorter than the length of 3rd antennal segment and imbricated. ..... *padi* (Linnaeus, 1758)

Synonymy; *Aphis prunifoliae* Fitch, 1885; *Aphis avenae* Essig et Kuwana, 1918; *Siphocoryne donarium* Matsumura, 1918. Hosts: Many species of Graminae and Rosaceae. Distribution: Kwangtung, Taiwan, Fuckien, Szechuan, Kiangsu, Shantung, Liaoning; cosmopolite.

11. Cauda conical, as long as cornicle. 12

Cauda elongate, longer than cornicle. 13

12. Abdomen with dark markings on the dorsum.. *Brevicoryne* van der Goot, 1915

Only one species known from China. i. e. *B. brassicae* (Linnaeus, 1758) Hosts: Many species of Cruciferae. Distribution: Taiwan, Fuckien, Chekiang, Liaoning; cosmopolite.

Abdomen without distinct dark markings on the dorsum. ..... *Lipaphis* Mordvilko, 1928

Only one species known from China, i. e. *E. erysimi* (Kaltenbach, 1844) Synonymy: *Aphis pseudobrassicae* Davis, 1919; *Siphocoryne indobrassicae* Das, 1918; *Yamataphis papaveris* Takahashi, 1921. Hosts: Many species of Cruciferae. Distribution: Kwangtung, Kwangsi, Taiwan, Fuckien, Chekiang, Szechuan, Kiangsu, Shantung, Hopei; cosmopolite.

13. Cornicles small, imbricated. Cauda conical.....*Brachycolus* Buckton. 1879

Only one species known from China, i. e. *B. heraclei* (Takahashi, 1921) Synonymy: *Brachycolus lonicerae* Shinji, 1939. Hosts: Caprifoliaceae, Magnoliaceae and many species of Umbelliferae. Distribution: Kwangtung, Taiwan, Fuckien, Chekiang, Szechuan, Shantung, Hopei; Corea, Japan, Ryukyu, Sumatra, Hawaii.

Cornicles much longer than wide, not imbricated. Cauda large, long. ..... *Hyalopterus* Koch, 1854

There are 2 species known from China. They may be separated as follow:

a. Ultimate rostral segment stout and as long as the penultimate segment. Sensoria not protruded, irregularly arranged. Cornicles thin, shorter than tarsi, little narrowed at both ends. ..... *pruni* (Fabricius, 1781)

Synonymy: *Aphis arundinis* Fabricius, 1794. Hosts: *Phragmites communis*, *Prunus* spp.. Distribution: Kwangtung, Taiwan, Fuckien, Chekiang, Szechuan, Kiangsu, Shantung, Hopei, Liaoning; cosmopolite.

Ultimate rostral segment thinner and as long as the cornicles. Sensoria protruded, arranged in a row. Cornicles not narrowed at bases but at apices..... *atriplicis* (Linnaeus, 1756)

Synonymy: *Brevicoryne chenopodii* Das, 1918. Host: *Chenodium album*. Distribution: Taiwan, Liaoning; Japan, India, Middle Asia; Europe; North America.

14. Cornicles short, expanded basally, nearly as long as wide.....15

Cornicles much longer than wide. ……16

15. Cauda elongate, constricted near middle. *Brachysiphoniella* Takahashi. 1921. Only one species known from China, i. e. *B. gramini* (Takahashi, 1920) Host: *Leersia hexandra*. Distribution: Kwangtung, Taiwan, Szechuan, Sikong; Jappn, Ryukyu, India, Malaya.

Cauda elongate, large, not constricted …… *Pergandeidia* Schouteden, 1903 There are 2 species known from China. They may be separated as follow:

a. Sensoria numerous, scattered over the whole length of antennal segment III. Cauda narrow, with more than 5 hairs on each side and occupied nearly the whole length.…… *trirhodus* (Walker, 1894) Synonymy: *Yezosiphum thalictri* Matsumura, 1918. Host: *Rosa* sp.. Distribution: Kiangsu, Shantung; Corea, Japan; Europe.

Sensoria less than 10, arranged in a single row. Cauda gross, with less than 5 hairs on each side and below the distal half.……*corydalisicola* n. sp.

Pergandeidia corydalisicola n. sp. (fig. 2)

Aptera: Head, antennae, rostrum, legs, cornicles, cauda, and anal plate pale yellow; rest pale. Frons slightly idented. Antennal tubercles present. Antennae 6 segmented, I and II subequal in length but I much wider than II and inward, III longest, subequal length of base and flagellum of VI taken together, IV just little longer than V. Base of VI little shorter than V, flagellum shorter than III. The relative length of antennal segments is; I-7, II-7, III-34, IV-20, V-20, VI-11+22. Eyes with ocular tubercles. Rostrum short, extending to the base of middle coxae, ultimate segment subequal length of penultimate segment and little narrower than it. Leg hairs stronger than those on the other part of appendages. Tarsi imbricated, first tarsal hairs 3:3:3. Abdomen without any sclerites. Cornicles cylindrical, tapering, about twice as long as wide, faintly

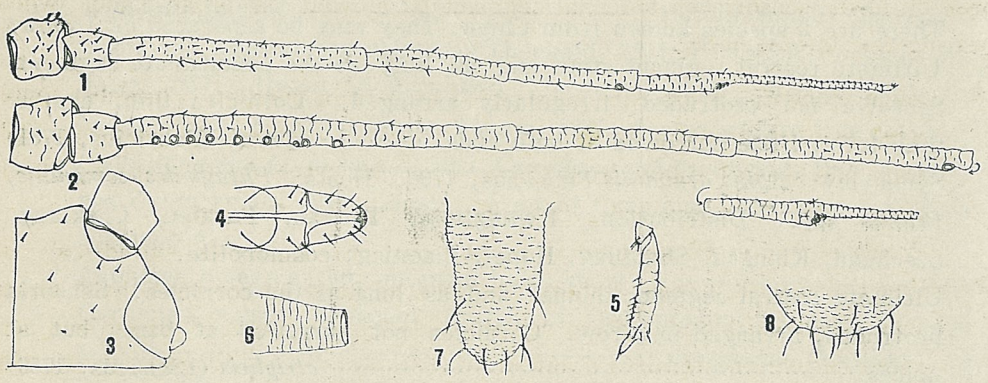

Fig. 2. *Pergandeidia corydalisicola* n.sp.

1. antenna of apterous viviparous female, 2. antenna of alate viviparous female, 3. head, 4. rostrum, 5. hind tarsus including claw, 6. cornicle, 7. cauda, 8. anal plate of apterous viviparous female.

imbricated, flange present. Cauda elongate, tapering, spinulose, with some long curved hairs at each side. Anal plate rounded, with 4 long curved hairs on the hind margin. Body length 2.1400, width 0.9600, antenna length 1.3552, hind tibia length 0.9600, cornicle length 0.1680, width 0.0896, cauda length 0.1344, width 0.3024, anal plate length 0.1120, width at base 0.1680 mm.

Alate: Head, antennae, rostrum, thorax, legs except coxae, trochanters, bases of femora which are pale yellow, wing veins, marginal and dorsal sclerites of abdomen, cornicles, cauda and anal plate blackish brown; rest pale. Frons slightly idented. Antennal tubercles not prominent. Antennal segments I, II subequal in length, but I much wider than II, III and the following segments imbricated, III longest, with about 10 circular sensoria arranged in a single row and extending to the basal two third. The relative length of segments is. I-8, II-7, III-56, IV-35, V-32, VI-19+?. Eyes with small ocular tubercles. Rostrum short, blunt, extending beyond coxae. wing stigma elongate, veination normal. Marginal sclerites of abdominal segments, II, III, IV present, dorsal sclerites of abdominal segments III, IV, V fused into a quadrical, central sclerite, post siphuncular or cornicular sclerites present. Cornicles cylindrical, about twice as long as wide, broaded at bases, gradually narrowed to apices, with flange. Cauda elongate, spinose, with 3 or 4 long curved hairs on each side. Anal plate rounded. Body length 2.0400, width 0.9300, antenna length 1.7584 (excluding flagellum), wing length 3.0600, width 1.1700, hind tibia length 1.2000, cornicle length 0.1344, width 0.0896, cauda length 0.2576, width 0.1234 mm.

Host: *Corydalis formosana* Hayata (Papaveraceae).

Locality: Some aptera and alate viviparous forms were taken from Wusha, Nantau Hsien on March 13, 1961 and Tailukao, Hualien Hsien, Taiwan on March 16, 1961 respectively by Dr. Evert I. Schlinger. This species differs from known ones by fewer sensoria on antennal segment III as well as broad cauda which bearing few lateral hairs.

16. Cauda elongate, gross, not constricted at certain portion. Cornicles somewhat swollen at one side.·····*Micraphis* Takahasi, 1931
Only one species known from China, i. e. *M. artemisiae* (Takahashi, 1924). Host: *Artemisia capillaris*. Distribution: Taiwan, Fuckien.
Cauda elongate, constricted at certain portion. Cornicles cylindrical.···17

17. Hind tibiae with a row of short cone shaped nails on the basal half among long tibial hairs and a latero-ventral abdominal pattern of raised and serrated cuticle on sternites 5 and 6. ·····*Toxoptera* Koch, 1856
There are 4 species known fron China. They may be separated as follow:

a. Media of fore wings once branched, stigma black. ····· b
Media of fore wings twice branched, stigma pale. ····· c

b. Antennal segment III with 14-17 sensoria scattered over the whole length,

IV with 3-4. ..... *schlingeri* Tao, 1961
Host: *Ficus* sp.. Distribution: Kwangtung (Hongkong).
Antennal segment III with 2-8 sensoria and arranged in a single row, IV without or occasionally with one sensorium. ..... *aurantii* (Boyer, 1841)
Synonymy: *Aphis camelliae* Kaltenbach, 1843; *Toxoptera aurantiae* Koch, 1857; *Aphis coffeae* Niether, 1861; *Myzus (Ceylonia) theaecola* Buckton, 1891; *Toxoptera theobromae* Schouteden, 1905; *Toxoptera alaterni* De Geer, 1909; *Toxoptera variegata* Del Guercio, 1909; *Aphis citrifoliae* Shiraki, 1913; *Toxoptera limonii* Del Guercio; *Aphis coffeae thomensis* De Seabra, 1921. Hosts: Many species of Anachardiaceae, Annonaceae, Apocynaceae, Aquifoliaceae Aracaeae, Borraginaceae, Camelliaceae, Caprifoliaceae, Euphorbiaceae, Fagaceae, Flacourtaceae, Moraceae, Myrtaceae, Pittosporaceae, Rhamnaceae, Rutaceae, Rubiaceae, Saliaceae, Styraceae, Sterculiaceae, Ulmaceae. Distribution: Kwangtung, Taiwan, Fuckien, Chekiang, Szechuan; over the tropical and subtropical countries.

c. Antennal segment III blackish brown, strong, slightly curved and swollen, hairs on antennae short. Cornicles longer than cauda. .....
.....*citricidus* (Kirkaldy, 1907)
Synonymy: *Aphis tavaresi* Del Guercio, 1908, *Aphis citricola* van der Goot, 1912, *Paratoxoptera argentinensis* Blanchard, 1944. Hosts: Many species of Camelliaceae, Euphorbiaceae, Lauraceae, Moraceae, Rosaceae, Rubiaceae. Distribution: Kwangtung, Taiwan, Yunan, Szechuan, Chekiang, Kiangsu; Corea, Japan, Ryukyu, India, Ceylon, Philippine, Sumatra, Java, Hawaii; Fiji, New Guenia; South America; Africa.
Antennal segment III pale white, normal, hairs on antennae slightly longer than the segments beared. Cornicles shorter than cauda. .....
..... *odinae* (van der Goot, 1917)
Synonymy: *Arimakia araliae* Matsumura, 1917; *Arimakia taranbonis* Matsumura, 1917; *Aphis somei* Essig et Kuwana, 1918; *Aphis ficicoia* Takahashi, 1921; *Aphis rutae* Shinji, 1922; *Aphis mokulen* Shinji, 1922; *Somaphis somei* Shinji, 1929; *Somaphis sansho* Shinji, 1932. Hosts: Many species of Anachardiaceae, Araliaceae, Burseraceae, Caprifoliaceae; Euphorbiaceae; Moraceae, Gutifeae, Myrtaceae, Pittosporaceae, Polygonaceae, Rubiaceae, Rutaceae. Distribution: Kwangtung, Taiwan, Fuckien, Chekiang, Kiangsu, Szechuan, Honan; Corea, Japan, Ryukyu, India, Thailand, Malaya, Sumatra.
Hind tibiae and latero-ventral abdominal sternites 5 and 6 without such stridulatory organ. 18

18. Media of fore wings once branched. .....*Schizaphis* Borner, 1931
There are 4 species known from China. They may be separated as follow:
a. Sensoria of antennl segments III. IV and V scattered over the whole length

..... *piricola* (Matsumura, 1917)

Synonymy: *Toxoptera punjabipyri* Das, 1918. Hosts: *Pyrus* spp.. Distribution: Taiwan, Szechuan, Shantung, Liaoning; Corea, Japan, India.

Sensoria of antennal segment III, or III and IV arranged in a row, extending to the whole length. ..... b

b. Sensoria only presented on antennal segment III. Distal halves of cornicles brown, bases pale. ..... *graminum* (Rondani, 1847)

Hosts: Many species of Graminae. Distribution: Taiwan, Fuckien, Szechuan; Corea, Japan, Ryukyu, Java; cosmopolite.

Sensoria presented on antennal segments III and IV. Cornicles entirely black. c

c. Hairs on antennae, legs and abdomen faint, longer than antennal segment II. ..... *scirpi* (Kittel, 1927)

Synonymy *Toxoptera typhae* Laing, 1923. Host: *Scirpus lactustris*. Distribution: Taiwan; Europe.

Hairs on antennae, legs short, stiff. ..... *cyperi* (van der Goot, 1917)

Synonymy: *Acaudus calami* Theobald, 1922; *Aphis acori* Theobald, 1923. Host: *Cyperus* sp.. Distributon: Taiwan, Fuckien; Java, Sumatra, Middle East, Africa.

Media of fore wings twice branched. 19

19. Only media of hind wings present. ..... *Hysteroneura* Davis 1919

Only one species known from China, i. e. *H. setariae* (Thomas, 1877)

Synonymy: *Siphonophora panicola* Thomas, 1878; *Aphis scotii* Sanderson, 1905; *Aphis punicolens* Ashmead, 1881; *Aphis bituberculata* Wilson, 1914; *Hysteroneura ogloblini* Blanchard, 1939; *H. gregoryi* Eastop, 1954. Hosts: *Cynodon dactylon*, *Prunus persica*. Distribution: Kwangtung (Hongkong); Hawaii; Africa; America. This species is new to the fauna of China.

Media and cubitus of hind wings present. 20

20. Antennae 5 segmented. ..... *Cerosipha* del Guercio, 1910

There are 2 species known from China. They may be separated as follow:

a. Body with prominent lateral tubercles. Antennal segment III with 3–5 large circular sensoria on basal halves. Abdomen with dotted sclerites. Cornicles longer than cauda. ..... *ichigocola* (Shinji, 1924)

Host: *Fragaria* sp. (Rosaceae). Distribution: Fuckien; Japan.

Body without prominent lateral tubercles. Antennal segment III with 3–13 moderate circular sensoria extending to the whole length. Abdomen without dorsal sclerites. Cornicles subequal length of cauda. .....

..... *humuli* Tseng et Tao, 1938

Host: *Humulus japonica*. Distribution: Taiwan, Chekiang, Szechuan.

Antennae 6 segmented (occsaionally 5 segments in aptera). 21

21. Aptera sometimes has 5 antennal segments but alate should have 6 segments. ..... *Melanaphis* van der Goot, 1917

There are 2 species known from China. They may be separated as follow:

a. Hairs on antennae few, shorter than the diameter of segments beared. Wings infuscated along the veins. ..... *bambusae* (Fullaway, 1910)

Synonymy: *Masraphis phyllostachia* Soliman, 1937. Hosts: Many species of bamboo and *Phragmites karha*. Distribution: Kwangtung, Taiwan, Szechuan, Sikong, Chekiang, Kiangsu; Japan, Ryukyu, Malaya, Java, Hawaii; Egypt.

Hairs on antennae numerous, much longer than the diameter of segments beared. Wing veins clear. ..... *arundinariae* (Takahashi, 1937)

Host: *Arundinaria niitakayamaensis*. Distribution: Taiwan, Szechun.

Aptera definitely has 6 segmented antennae except fundatrix 22

22. Cauda as long as or longer than the cornicles and with more than 10 hairs on each side. ..... *Longiunguis* van der Goot, 1917

Only one species known from China, i. e. *L. sacchari* (Zehntner, 1891) Synonymy: *Aphis sorghi* Theobald, 1904, *A. sorghella* Schouteden, 1906; *A. pheidolese* Theobald, 1916; *A. miscanthi* Takahashi, 1921; *A. formosanus* Takahashi, 1923. Hosts: Many species of Gramiae. Distribution: Kwangtung, Taiwan, Fuckien, Szechuan, Chekiang, Shantung, Honan, Hupei, Liaoning; Corea, Japan, Ryukyu, Philippine, India, Thailand, Malaya, Sumatra, Java, Hawaii; cosmopolite.

Cauda as long as or shorter than the cornicles, with less than 10 hairs on each side. 23

23. Bases and flagella of antennal segment VI subequal in length. Cornicles as long as the cauda. ..... *Brachyunguis* Das, 1918

There are 3 species known from China, They may be separated as follow:

a. Ultimate rostral segment longer than penultimate and narrow. ..... *kurosawai* (Takahashi, 1921)

Host: *Artemisia vulgaris*. Distribution: Taiwan, Szechuan, Honan.

Ultimate rostral segment subequal length of penultimate segment and not so narrow. ..... b

b. Cornicles and cauda comparatively gross. Feeds on *Vicia faba*. ..... *craccae* (Linnaeus, 1767)

Distribution: Kirin; Japan; Europe.

Cornicles and cauda comparatively small. Feeds on *Drosera loureirii*. ..... *droserae* (Takahashi, 1921)

Distribution: Taiwan, Chekiang.

Flagella of antennal segment VI much longer than bases. Cornicles longer than cauda. ..... *Aphis* Linnaeus, 1857

There are 13 species known from China. They may be separated as follow:

a. Aptera with rudimentary, but distinct ocelli and sometimes with a few sensoria on antennal segment III, alate with 10 or more sensoria on antennal segment III, alate with 10 or more sensoria on IV··· *fuckii* Shinji 1922
Synonymy: *Aphis petasiticola* Takahashi, 1924. Host: *Petasites tricholobus*. Distribution: Taiwan, Japan.
Aptera without rudimentary ocelli and without sensoria on antennal segment III. Alate with 0–5 sensoria on IV. ····· b

b. Cornicles not black. ····· c
Cornicles entirely black. ····· d

c. Aptera densely covered with powder, wings infuscated along the veins. Cornicles dark green, stout, shorter than antennal segment III. ····· ····· *smilacifoliae* Takahashi, 1921
Host: *Smilax china*. Distribution: Taiwan, Fuckien; Japan.
Aptera naked. Wing veins clear. Cornicles pale, very long, slender and longer than antennal segment III.····· *saliceti* Kaltenbach, 1843
Synonymy: *Aphis yanagicola* Matsumura, 1917; *A. neosaliceti* Shinji et Kondo, 1938. Hosts: *Salix* spp.. Distribution: Taiwan, Szechuan, Shantung, Hopei, Liaoning; Corea, Japan, Philippine, Malaya, Sumatra; Europe; North America.

d. Antennal segment III with 15 sensoria scattered over the whole length. ··· ····· *rumicis* Linnaeus, 1758
Hosts: *Rumex china*, *Solanum nigrum*. Distribution: Taiwan, Sikong, Chekiang, Kiangsu, Hopei; cosmopolite.
Antennal segment III with 4–12 sensoria arranged in a single row.··· ····· c

e. Dark brown or shiny black. Anntennal segment III with about 1 or 6 sensoria.····· *laburni* Kaltenbach, 1843
Synonymy: *Aphis rumicis* Maki nec Linnaeus, 1916; *A. medicaginis* Koch, 1854. Hosts: Many species of Leguminosae, *Gossypium* sp., *Polygonum cuspidatum*. Distribution: Hainan, Kwangtung, Taiwan, Fuckien, Szechuan, Chekiang, Kiangsu, Shantung, Honan, Shensi, Hopei, Liaoning; Corea, Japan, Ryukyu, Thailand, Malaya, Sumatra, Java; Australia, New Guenia, Mauritis; England.
Green, dark green or yellow.····· f

f. Sensoria presented on antennal segment III only. ····· g
Sensoria presented on antennal segment III and IV. ····· ····· i

g. Cauda with less than 3 hairs on each side below constriction. ····· ····· ····· *gossypii* Glover, 1876
Synonymy: *Toxoptera odorikonis* Matsumura, 1917; *Aphis clerodendori* Matsumura, 1917; *A. colocariae* Matsumura, 1917; *A. malvae* Takahashi, 1921; *Toxoptera leonuri* Takahashi, 1921; *A. shirakii* Takahashi 1921; *A. gossgpii*

var. *callicorpae* Takahashi 1921; *A. vitifoliae* Shinji, 1922; *A. bryophyllae* Shinji, 1922, *A. hibiscifoliae* Shinji, 1922. Hosts: Many species of Acanthaceae, Araceae, Araliaceae, Bombaceae, Casuarinaceae, Cammelinaceae, Compositae, Cruciferae, Cucurbitaceae, Euphorbiaceae, Hamamelidaceae, Libiatae, Leguminose, Lythraceae, Magnoliaceae, Malvaceae, Melastomataceae, Moraceae, Myrtaceae, Nyctaginaceae, Polygonaceae, Portulaceae, Punicaceae, Rosaceae, Rubiaceae, Rutaceae, Saliaceae, Scrophulariaceae, Solanaceae, Urtiaceae, Valerianaceae, Verbenaceae. Distribution: Hainan, Kwangtung, Taiwan, Fuckien, Chekiang, Kiangsu, Shantung, Hopei, Liaoning, Szechuan, Sikong; cosmopolite.

Cauda with more than 3 hairs on each side below constriction,..... h

h. Cauda yellow..... *glycines* Matsumura, 1917

Host: *Glycine max*. Distribution: Taiwan, Szechuan; Corea, Japan, Ryukyu, Thailand, Malaya.

Cauda brown. ..... *nigricauda* van der Goot, 1917

Hosts: *Ageratum conyzoides*, *Raphiolepis indica*. Distribution: Kwangtung; Malaya, Java, Sumatra.

i. Cornicles longer than antennal segments III and IV taken together..... ..... *malvoides* van der Goot, 1917

Hosts: *Bidens pilosa* and *Emilia sonchifolia*. Distribution: Taiwan, Fuckien, Sikong; Malaya, Sumatra, Java.

Cornicles shorter than antennal segments III and IV taken together ..... j

j. Abdomen with antesiphuncular and postsiphuncular sclerites. ....*lutescens* Monell, 1879

Synonymy: *Aphis nerii* Boyer, 1841. Hosts: *Asclepias curassavica*, *Cynanchum* sp., *Nerium indicum*. Distribution: Kwangtung, Taiwan, Fuckien, Chekiang, Sikong, Shantung; Liaoning; Corea. Japan, Ryukyu, India, Malaya, Sumatra, Java; cosmopolite.

Abdomen without antesiphuncular and postsiphuncular sclerites. ..... k

k. Legs entirely black. ..... *stranvaesiae* Takahashi 1937

Host: *Stranvaesia niitakayamaensis*. Distribution: Taiwan.

Legs not entirely black. l

l. Body yellow. Lateral abdominal tubercles usually present on abdominal segments 2–5. Cauda not or only faintly constricted in middle, with about 14 hairs..... *pomi* De Geer, 1773

Synonymy: *Aphis kogomecola* Matsumura, 1917; *A. croomiae* Shinji. 1922, *A. deutziae* Shinji, 1922, *A. pirifoliae* Shinji, 1922. Hosts: *Glochidion hongkongense*, *Jussiaea erecta* and many species of Rosaceae. Distribution: Kwangtung, Taiwan, Fuckien, Szechuan, Chekiang, Shantung, Hopei. Liaoning; Corea, Japan; cosmopolite.

Body greenish yellow. Lateral abdominal tubercles usually absent on abdominal segments 2-5, Cauda strongly constricted in middle, with about 9 hairs. ..... *spiraecola* Patch, 1914

Hosts: Many species of Rutaceae, *Spiraea* spp. and *Dodonaea viscosa*. Distribuiton: Kwangtung, Taiwan, Fuckien; Ryukyu; North America.

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中國常蚜亞科之審訂*

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本文包述中國常蚜亞科59種，分隸於24屬。文中先述本亞科之特徵，次立屬及種之檢別表於一起，以便查定，每種之下附有同種異名、寄主植物、國內外分布地名，末附屬種名稱，以便檢閱。

常蚜亞科59種中，新種有 *Sappaphis pyrivora* n. sp. 產於四川之成都及簡陽，寄主梨。*Pergandeidia corydalisicola* n. sp. 產於臺灣之霧社及太魯閣，寄主 *Corydalis* sp.等二種。新記錄種有*Sappaphis pruni* (Shinji, 1922) 產四川峨眉，及 *Hysteroneura setariae* (Thomas, 1877)產廣東之香港，同時亦爲東亞之新記錄種等二種。

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會友消息

孫會友定國於去年八月奉派赴美研究昆蟲學，第一學期在北加羅林納州立大學研究棉作害蟲，第二學期在加州大學研究柑橘及棉作紅蜘蛛，歸途道經日本，除仍繼續研究紅蜘蛛外，並考察日本稻害蟲研究情形一個月，返國後繼續在農林廳植物保護組工作。